

CLAIMS

What is claimed is:

1. A leadscrew drive comprising:
a leadscrew follower; and
a leadscrew, wherein the leadscrew comprises an elongated annular leadscrew shell having a thread-form outer surface.
2. The leadscrew drive of claim 1, wherein the elongated annular leadscrew shell has no core support.
3. The leadscrew drive of claim 1, wherein the elongated annular leadscrew shell has a core support.
4. The leadscrew drive of claim 1, wherein the elongated annular leadscrew shell has a ratio of an annular thickness to a cylindrical outer diameter of not more than 0.01.
5. The leadscrew drive of claim 1, wherein the elongated annular leadscrew shell has a ratio of an annular thickness to a cylindrical outer diameter of not more than 0.001.
6. The leadscrew drive of claim 1, wherein the elongated annular leadscrew shell is made of a nickel-base metal.
7. A method for making a leadscrew drive, comprising the step of fabricating a leadscrew by
providing a mandrel having a thread-form outer surface, and
depositing a leadscrew-shell material onto the mandrel to form an
5 elongated annular leadscrew shell, wherein the thread-form outer surface of the mandrel is replicated in an outer surface of the leadscrew-shell material.

8. The method of claim 7, wherein the step of providing the mandrel includes the step of
providing the mandrel as a wire-wound mandrel.
9. The method of claim 7, wherein the step of depositing includes the step of
electroless depositing the leadscrew-shell material.
10. The method of claim 7, wherein the step of depositing includes the step of
depositing a nickel-base metal.
11. The method of claim 7, wherein the step of depositing includes the step of
depositing a metal.
12. The method of claim 7, wherein the step of depositing includes the step of
depositing the leadscrew-shell material such that the elongated annular leadscrew shell has a ratio of an annular thickness to a cylindrical outer diameter
5 of not more than 0.01.
13. The method of claim 7, wherein the step of depositing includes the step of
depositing the leadscrew-shell material such that the elongated annular leadscrew shell has a ratio of an annular thickness to a cylindrical outer diameter
5 of not more than 0.001.
14. The method of claim 7, wherein the step of fabricating the leadscrew includes an additional step, after the step of depositing, of
removing the mandrel.

15. The method of claim 7, wherein the step of fabricating the leadscrew includes an additional step, after the step of depositing, of dissolving at least a portion of the mandrel.

16. The method of claim 7, including additional steps, after the step of fabricating, of
providing a leadscrew follower, and
engaging the leadscrew to the leadscrew follower.